

Chicken Mite (*Dermanyssus gallinae*)

General Information

The chicken mite, or poultry red mite, is a blood-feeding parasite of poultry. Mites spend most of their time off chickens in crack and crevice harborages, traveling at night to feed on birds. Chicken mites have become a huge problem in European commercial enriched cage and cage-free poultry. However, this pest has not been as problematic in the United States to date because commercial poultry facilities predominantly hold birds in wire cages that do not offer daytime harborages for the mites. However, the United States is transitioning from housing poultry in barren wire cages to keeping birds in group cages enriched with nesting boxes and perching structures, or even eliminating cages altogether in cage-free or free-range facilities. With these changes we expect chicken mites to become problematic in both commercial and backyard chicken flocks much as they are in Europe today.

Identification and Life History

Adult mites are about 0.06 in (1.5 mm) in size and are larger than adult northern fowl mites, which are only about 0.02 in (0.5 mm). Females lay eggs off-host in harborages such as cracks and crevices in nest boxes or nearby structures. Eggs hatch into larvae, which are non-feeding. The larval stage is then followed by additional life stages (protonymph, deutonymph, and adult) that require a blood meal to molt or reproduce. Short blood meals are typically taken every 2-4 days. After a blood meal, chicken mites become bright red in color (Fig. 1). Unfed mites are black, gray, or white. Females can lay 4-8 eggs per week for up to 8 weeks and mites can complete their life cycle in 7-14 days. Mites can survive in the absence of hosts for up to 8 months, and will often survive between flocks. It is common to have > 50,000 mites in a single commercial flock, with populations reaching as high as 500,000 mites/flock in severe infestations.



Figure 1. Blood-fed chicken mite. Image by AW via Wikimedia Commons

Damage

The chicken mite can cause serious irritation and blood loss to birds. Birds will spend more time grooming, especially at night instead of sleeping. This leads to decreased feed consumption, weight gains, and egg production. When mite populations are very high, birds can die because of blood loss due to blood feeding. Chicken mites have been implicated as vectors of poultry disease-causing agents, and may harbor pathogens between flocks. Chicken mites can infest other bird species (including domestic species) and can cause irritation and dermatitis in humans.

Integrated Pest Management

Monitoring: Chicken mites can be difficult to spot as they are inactive during the day. Providing a preferred harborage, such as a piece of corrugated cardboard, can be a good way to determine if mites are present. Secure trap near where birds rest at night, such as on or near perches (Fig. 2). Periodically remove trap and tap or blow out debris onto a white or light colored background. Mites will stand up and start walking! Mites may also be present in nest boxes or under Astrotruf mats; these areas should be examined for congregating mites with the aid of a flashlight.

Management: Prevention is preferred over treatment, as once mites have infested your property, they can be very difficult to eradicate. To limit mite introduction into your flock, keep chickens isolated from wild birds, rodents, and other wild animals which may introduce chicken mites to a property. Examine chickens and clean equipment before bringing onto your property, or better yet don't share equipment among properties - which provides an added biosecurity benefit as well.

Insecticidal dusts or sprays, including diatomaceous earth or botanical products, may be applied to cracks and crevices in nest boxes and throughout the poultry facility, though it is difficult to ensure complete coverage. Mite resistance to chemical pesticides has been documented in Europe, though it is unlikely that US populations have been exposed enough to develop resistance yet. Reduce possible harborages in nest boxes by sealing joints or cracks. Excessive heat (> 113° F) can kill mites, if that can be achieved inside the poultry house or nesting area. Washing the poultry house with soapy water may also help to decrease mite populations between flocks.

Populations of lice and northern fowl mites are kept in check by host grooming, and birds with trimmed or damaged beaks will harbor higher numbers of ectoparasites. It is possible that beak condition also affects chicken mite feeding success, though this has not yet been tested.

References for more information

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PUBLICATION DATE: 29 September 2016